REMARKS

I.   Status of Claims

Claims 1-76, 81, 82, 95, 96, 108, and 162-164 were previously cancelled.

Without prejudice or disclaimer, claim 85 has been cancelled, claims 77, 83, 84, 86, 89-94, 104, 105, 112, 118-120, 123-126, 130-139, 143-145, 150, 154-157, 165, and 174 have been amended. Support for those amendments can be found by the original claims as filed. No new matter has been added herein.

Claims 165-174 have been withdrawn as allegedly being directed to a non-elected invention.

Claims 77-80, 83-84, 86-94, 97-107, 109-161, and 165-174 are now pending in this application with entry of this amendment.

II.   Information Disclosure Statement

Applicants respectfully request that the Office consider and initial reference nos. 204, 223, and 225 on the SB/08 submitted on March 23, 2009, which are in English and were submitted to the Office as indicated by the attached electronic filing acknowledgement. Reference nos. 204, 223, and 225 correspond to item nos. 10, 17, and 19 on the attached electronic filing acknowledgement, respectively.

III.   Claim Rejections - 35 U.S.C. §112 (2nd Paragraph)

Claims 77-80, 83-94, 97-107, and 109-161 remain rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Office Action at 3. Specifically, the Office alleges that it is not clear to one of ordinary skill in the art whether the limitation "mean gloss at 20 °.." recited in claims 77, 90, and 93-94

and the limitation "mean gloss at 60 °.." recited in claims 91 and 92 refer to a

temperature or an angle. Applicants respectfully disagree and traverse this rejection for

reasons on the records as well as for the following reasons.

As stated by Applicants previously, those limitations refer to an angle. Applicants

would like to direct the Office's attention to the section "Gloss measurement" of the

specification as filed, which begins at page 62, line 13. Step 3 under that section

describes that

> The gloss measurements are performed using a Byk Gardner micro-tri-
> gloss glossmeter with measuring **angles** of 20° and 60°. (emphasis
> added)

Contrary to the Office's position, the specification thus provides a sufficient

standard for ascertaining the degree. Accordingly, the scope of the invention is

clear to one skilled artisan. However, to expedite prosecution, Applicants have

amended claims 89-94 to recite, in relevant part, "...at an angle of 20°..." or

"...at an angle of 60°...". Applicants respectfully request that this rejection be

withdrawn.

IV.   Claim Rejections - 35 U.S.C. 112 (1st Paragraph)

Claims 104-107 are rejected under 35 U.S.C. §112, first paragraph, as

allegedly failing to comply with the written description requirement. Office Action

at 12-13. Specifically, the Office contends that "[s]upport for the amendments to

these claims (i.e. the deletion of the term "active material") was not found

throughout the specification or original claims." Applicants respectfully disagree.

However, solely to expedite prosecution of this application and without in

any way conceding to the propriety of this rejection, Applicants have amended

claims 104 and 105 to recite "wherein said composition comprises......by weight

of active material of polymer". Support can be found at page 46, lines 17-21.

Applicants thus respectfully request that this rejection be withdrawn.

V.   Claim Rejections - 35 U.S.C. §103

A.   Over Mougin in view of Frechet and Melchiors

Claims 77-80, 83-84, 86-94, 98-103, and 159-161are rejected under 35 U.S.C.

§103(a) as allegedly being unpatentable over Mougin (U.S. Application Publication No.

2002/0115780) in view of Frechet (U.S. Patent No. 6,663,855) for reasons as set forth

at pages 14-18 of the Office Action. Applicants respectfully disagree and traverse.

The instant claims, as amended, recite, *inter alia*, a linear block polymer having

"a polydispersity index of greater than 2.5" and comprising "a first block and a second

block, wherein the first block and the second block are connected together via an

intermediate block comprising at least one constituent monomer of the first block and at

least one constituent monomer of the second block, wherein the at least one constituent

monomer of the first block differs from the at least one constituent monomer of the

second block, said intermediate block is a random copolymer block with a Tg that

ranges from the glass transition temperature of the first block to the glass transition

temperature of the second block".

Mougin

Mougin describes "the cosmetic use of block ethylenic copolymers of elastic

nature comprising at least one rigid block having a glass transition temperature (Tg) of

greater than or equal to 20° C. and at least one flexible block having a glass transition

temperature (Tg) which is less than 20° C". See Abstract. However, Mougin does not

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teach a block to link such rigid and flexible blocks, let alone the random block as currently claimed, as amended. While Mougin describes that the block ethylenic copolymers may be chosen from a diblock AB, a triblock ABA or BAB, and polyblock copolymers of formula (AB)n,B(AB)n or (AB)nA, Mougin emphasizes that "[i]n the present invention, it is most particularly preferred to use triblock copolymers of structure ABA". *See* paragraphs [0041] - [0044]. Indeed, Mougin only describes the preparation of a triblock, wherein both As are identical blocks. *See* Example 2, at page 6.

Mougin's "particularly preferred" triblock copolymers are also distinguished from the currently recited block polymers, as amended. For example, the intermediate block of triblock ABA, e.g., B, has a Tg of less than 20°C, linking two polymers which both have Tgs of greater than or equal to 20°C, *see* paragraph [0044]. In other words, Mougin's intermediate block has a Tg of less than that of either of the two blocks linked together by the intermediate block. In contrast, the currently recited intermediate block, as amended, has a Tg "that ranges from the glass transition temperature of the first block to the glass transition temperature of the second block". In other words, the currently recited intermediate block, as amended, has a Tg less than one of the adjacent blocks but greater than that of the other adjacent block.

In addition, Mougin describes the block polymer has a low polydispersity index, and the only exemplary block has a polydispersity of 2.21. *See* Example 2. As such, Mougin does not teach or suggest a polydispersity index as currently claimed.

Frechet

Frechet describes "a cosmetic or personal care composition comprising a thermoplastic elastomer which is a block copolymer comprising a core polymer having a

backbone comprising at least a proportion of C-C bonds and two or more flanking polymers". *See* col. 2, lines 55-59. Frechet also describes that "the core polymer may be linear or star-shaped". *See* col. 3, line 53. Frechet further teaches that "Tg of the flanking polymers will be higher than that of the core polymer", *see* col. 4, lines 35-36. Thus, in triblock ABA copolymers, which are the "preferred polymers for use in the present invention", *see* col. 10, lines 13-14, the intermediate block B has a Tg of less than that of the two blocks(A) linked together by B, wherein the flanking polymer A most preferably has a Tg from 30 to 150 °C, and the core polymer B most preferably has a Tg from -75 to 30 °C. *See* col. 4, lines 21-30. Frechet's "preferred polymers" thus do not rectify the deficiencies of Mougin's "particularly preferred" triblock copolymers have.

The Office appears to rely on Frechet for the teaching of a random block that can be put between the core block and the flanking block. Frechet generally describes that the block polymers may have an architecture such as A-R-B-A or A-R-B-R-A, wherein R is a random block of monomers A and B or B and C or more monomers. However, Frechet is silent on the Tg of R, and further does not describe how to make such kinds of block polymers. Indeed, Frechet only describes how to make ABA triblock polymers, wherein both As are identical polymers. *See* Examples 1-60. Thus, the intermediate block does not have a Tg greater than one of the adjacent blocks but less than that of the other adjacent block, as currently recited, as amended.

Frechet is silent on polydispersity index, and thus does not teach or suggest the polydispersity index as currently claimed.

Melchiors

Melchiors describes a copolymer P for the use in coating composition, wherein the ratio M_w/M_n (e.g. polydiapersity index) varies from 2.5 to 4.0, and preferably from 3.0 to 4.0. *See* paragraph [0061]. Melchiors does not discuss whether the copolymer P is a block polymer. Moreover, the copolymer P is defined by a process, and is a mixture of copolymers which differ from each other by comprising different set of monomers, *see* paragraph [0062].

Assuming there is motivation to combine the teachings from Mougin, Frechet and Melchiors, the combined teachings would not lead to the block polymers as currently recited, as amended. First, Frechet, the reference relied on by the Office for the teaching of a random block linking two blocks, does not discuss Tg of the random block, let alone the random block as currently recited as amended. Furthermore, the intermediate block of the preferred block polymers taught by both Mougin and Frechet is distinguished from the claimed intermediate block as discussed above. In addition, the Office did not provide a rationale as to why a skilled artisan would choose the random block as taught by Frechet over the intermediate block of the preferred block polymers as taught by both Frechet and Mougin, to be the intermediate block linking two blocks.

On the other hand, in support of combining Melchiors' teaching of polydispersity index, the Office states that

> Melchiors discloses copolymer compostions with the object of providing coating compositions with high resistance to solvents, water, and environmental influences with very good optical properties (gloss) and mechanical properties (hardness flexibility), which can be applied in a wide range of fields (paragraph [0013], and [0037]). Melchiors teaches that polydispersity values of 2.9-3.5 are acceptable to achieve the objects of the invention Table 1. Office Action at 16-17, paragraph 4.

However, the results of Table 1 and Table 2 of Melchiors show that the relationship between polydispersity index and those desired objects cannot be reasonably predicted. For example, the comparison examples 13 and 14 in Table 2 prepared by a process not disclosed by Melchiors, but with the polydispersity index (3.2) within the range of the one as disclosed by Melchiors, display, for example, either significantly lower solvent resistance, or unsuitable for storage, when compared with Melchiors' polymers. *See* paragraph [0127]. Further, Table 1 indicates that the comparison examples 5 and 8 display very different properties in terms of both viscosity drift, polydispersity index, and resistance to water, etc. Comparison examples 5 and 8 used polymer examples 6 and 9, respectively, wherein both polymer examples 6 and 9 contain same component monomers, but were prepared by different processes. It is thus clear to one of ordinary skill that the structure of a polymer, and hence the property thereof, depend on not only the component monomers, but also the requisite process used to prepare the polymer; and that the incorporation of the polydispersity index as described by Melchiors, and of some monomers as taught by Mougin and Frechet would yield unpredictable results.

As such, those three references, either alone or in combination, do not render obvious the current claims, as amended. This rejection is thus improper and should be withdrawn.

B.   Over Anton in view of Frechet and Melchiors

Claims 77-80, 83-94, 97-107, and 109-161 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Anton (U.S. Patent No. 6,153,206) in view of Frechet (U.S. Patent No. 6,663,855) and Melchiors (U.S. Application Publication No.

2002/0151638) for reasons as set forth at pages 17-30 of the Office Action. Applicants respectfully disagree and traverse.

Anton describes a polymer comprising a first repeat unit (first monomer) and a second repeat unit (second monomer). Anton discloses that the polymer may be a block copolymer, without, however, further discussing any particulars regarding the nature of the block copolymer. Although some of the copolymers listed in the table in col. 4, for example, the copolymers in line 50, IIIIIIIIBBBBB, and line 58, IIIIIIIBBBBBBBMMMMMM, can be considered as linear block polymers, those linear block polymers differ from the instantly claimed block polymers. For example, the intermediate segment of the claimed block polymers is a random copolymer, whereas the intermediate segment of Anton's block polymers either is nonexistent (for IIIIIIIBBBBB) or is a homopolymer BBBBB (for IIIIIBBBBBBBMMMMMM). One may argue that IIBB can be considered as the intermediate block for IIIIIIBBBBB (by definition, IIIIIBBBB is a diblock with no intermediate block), IIBB still is not a random block. Furthermore, though describing that the monomer suitable for the first repeat unit is chosen from those, if polymerized, would yield a polymer with Tg varying from -10 to 75°C, and that the monomer suitable for second repeat unit, with Tg varying from 76 to 120 °C, see Abstract, contrary to the Office's statement regarding Tg of blocks as made in paragraph 7 at page 19 of the Office Action, Anton does not expressly discuss the Tg for any blocks, if any. Moreover, all of the blocks of Anton's block polymers as listed in the table in col. 4 have a glass transition temperature of over 40 °C. For example, the block polymers in line 50, IIIIIIIIBBBBBB and line 58, IIIIIIIIBBBBBBBMMMMM are derived from repeat units (for example, I, B, and M), when each polymerized to form a homopolymer block, having a

glass transition temperature above 40 °C (53°C, 105 °C, and 105°C for blocks IIIIII,

BBBBBB, and MMMMM, respectively). In contrast, at most only one of the at least one

first block and the at least one second block of the instantly claimed block polymer has

a glass transition temperature of over 40 °C.

As such, Anton differs from the current claims as amended in, for example, that

Anton does not teach or suggest the currently recited Tg ranges of the blocks; and

Anton does not teach or suggest the intermediate segment is a random block, let alone

the random block as currently recited, as amended. Further, as noted by the Office,

Anton is silent on polydispersity index, and thus does not teach or suggest the

polydispersity index as currently recited. Therefore, Anton has deficiencies similar to

those that Mougin has.

Both Frechet and Melchiors have been discussed in the previous section.

For reasons similar to those as presented in the second paragraph at page 30 of

this paper, assuming there is motivation to combine the teachings from Anton, Frechet

and Melchiors, the combined teachings would not lead to the block polymers as

currently recited, as amended.

Also for the same reasons as presented at pages 30-31, it is Applicants' position

that the incorporation of the polydispersity index as described by Melchiors, and of

some monomers as taught by Anton and Frechet would yield unpredictable results.

Thus, for the foregoing reasons, and without further addressing the Office's

position as listed in "Response to Arguments" at page 30 of the Office Action, those

three references, taken alone or in combination, do not render obvious the current

claims, as amended. Applicants respectfully submit that this obviousness rejection is improper and should be withdrawn.

VI.   Double Patenting

The Office maintains the double patenting rejections made in the previous Office Action.

In an attempt to advance prosecution of this application, Applicants submit herewith Terminal Disclaimers rendering this rejection moot. Applicants respectfully request entry of the Terminal Disclaimer and withdrawal of this rejection.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
  GARRETT & DUNNER, L.L.P.

Dated: September 25, 2009   By:_____
                                          Wen Li
                                          Reg. No. 62,185
                                          (650) 849-6649